



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|-----------------------|------------------|
| 10/719,031 | 11/24/2003 | Jun Koyama | 12732-177001 / US6764 | 9159 |

26171 7590 01/30/2007
FISH & RICHARDSON P.C.
P.O. BOX 1022
MINNEAPOLIS, MN 55440-1022

| |
|----------|
| EXAMINER |
|----------|

SHERMAN, STEPHEN G

| | |
|----------|--------------|
| ART UNIT | PAPER NUMBER |
|----------|--------------|

2629

| SHORTENED STATUTORY PERIOD OF RESPONSE | MAIL DATE | DELIVERY MODE |
|--|------------|---------------|
| 3 MONTHS | 01/30/2007 | PAPER |

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

| | | | |
|------------------------------|---------------------------------------|--------------------------------------|--|
| Office Action Summary | Application No. 10/719,031 | Applicant(s) KOYAMA ET AL. | |
| | Examiner Stephen G. Sherman | Art Unit 2629 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 September 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4,6-8,13 and 15-38 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4,6-8,13 and 15-38 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 July 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This office action is in response to the amendment filed the 14 September 2006. Claims 1-4, 6-8, 13 and 15-38 are pending. Claims 5, 9-12 and 14 have been cancelled.

Response to Arguments

2. Applicant's arguments with respect to claims 1-4, 6-8, 13 and 15-18 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 1-4, 6-8, 13 and 15-38 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Independent claims 1, 2, 3, 4, 19, 20 and 21 all recite the limitations that a "first light emitting element comprise a first electroluminescent layer between a first electrode and a second electrode" and that a "second light emitting element comprises a second electroluminescent layer between the first electrode and a third electrode." These features are not enabling because the specification does not disclose of a first and second electroluminescent layer, but instead discloses only of one. Figure 1 shows the structure of the invention which contains only electroluminescent layer 6011. As recited in the specification on page 11, lines 16-20: "An overlapping area of the anode 6010, the electroluminescent layer 6011 and the cathode 6012 corresponds to a first light emitting element 6013, and an overlapping area of the anode 6030, the electroluminescent layer 6011, and the cathode 6012 corresponds to a second light emitting element 6023." Therefore the claims are not enabled by the specification. For the purpose of examination the examiner will provide a rejection based on the fact that there is only one electroluminescent layer.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1, 8, 19, 22, 25 and 29 are rejected under 35 U.S.C. 102(b) as being anticipated by Kim (KR 2002-094424 A).

Regarding claim 1, Kim discloses a display device (Figure 2) comprising:

a pixel portion in which a plurality of pixels are arranged in a matrix over a substrate, wherein at least one of the pixels comprises a first light emitting element and a second light emitting element (Figure 3 shows the EL panel 40 and Figure 2 shows that there are first and second light emitting elements constituted by the multiple electrodes 14.),

wherein the first light emitting element comprises a first electroluminescent layer between a first electrode and a second electrode (Figure 2 shows that a first light emitting element would be made up of the electrode 12 the EL layer 13 and an electrode 14.),

wherein the second light emitting element comprises a second electroluminescent layer between a first electrode and a third electrode (Figure 2 shows that a first light emitting element would be made up of the electrode 12 the EL layer 13 and another electrode 14, different from the first electrode 14.),

the first light emitting element emits light in a first direction (Figure 2 shows that the first light emitting element emits light in a direction shown by the arrow at the bottom of the Figure.),

wherein the second light emitting element emits light in a second direction which is opposite to the first direction (Figure 2 shows that the second light emitting element emits light in a direction shown by the arrow at the top of the Figure.), and

wherein the first electrode covers the first electroluminescent layer and the second electroluminescent layer (Figure 2 shows that the electrode 12 covers the EL layer 13.).

Regarding claim 8, Kim also discloses an electronic device using the display device according to claim 1 (Figures 4-5).

Regarding claim 19, please refer to the rejection of claim 1, and furthermore Kim also discloses wherein the first electrode is opposite to the second electrode and the third electrode (Figure 2), wherein the first light emitting element emits light through the first electrode (Figure 2 show that light is emitted towards the bottom of the display meaning that light is emitted through the first electrode.), and wherein the second light emitting element emits light through the third electrode (Figure 2 show that light is emitted towards the top of the display meaning that light is emitted through the third electrodes.).

Regarding claim 22, Kim also discloses an electronic device using the display device according to claim 19 (Figures 4-5).

Art Unit: 2629

Regarding claims 25 and 29, Kim discloses the display device according to claims 1 and 19, wherein the first electrode, the second electrode and the third electrode have light transmitting properties (All of the electrodes shown in Figure 2 have light transmitting properties, otherwise light would not be emitting in the directions indicated by the arrows on the top and bottom of the figure.).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

9. Claims 2, 6, 16, 26, 32-33 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kim (KR 2002-094424 A) in view of Roosendaal et al. (US 2003/0063243).

Regarding claim 2, please refer to the rejection of claim 1, and furthermore Kim fails to teach of a means for selecting either or both of the two directions in which the first light emitting element and the second light emitting element emit light.

Roosendaal et al. disclose of a display device comprising a first and second light emitting elements (Figures 3-5) in which there is a means for selecting either or both of the two directions in which the first light emitting element and the second light emitting element emit light (Paragraph [0026] states that when the device is in the closed state, as in Figure 2B, the device is viewable in direction 7 shown in Figure 3. The examiner interprets that since the user has the ability to open and close the device, that this would be a means for selecting either of the directions 7 or 8. Paragraph [0033] explains that in Figure 5 light emitting elements are shown which are made to emit light alternately in directions 7 and 8 shown in Figure 3, meaning that both sides would be emitting light at the same time.).

Therefore it would have been obvious to "one of ordinary skill" in the art at the time the invention was made to use the selection means as taught by Roosendaal et al. in the display device taught by Kim in order to allow for power reduction when the device is closed and both sides of the display are not needed.

Regarding claim 6, Kim discloses the display device according to claim 1.

Kim fails to teach wherein the display device comprises a means for selecting whether the first light emitting element emits light or no light; and a means for selecting whether the second light emitting element emits light or no light.

Roosendaal et al. disclose a display device, wherein the display device comprises a means for selecting whether the first light emitting element emits light or no light; and a means for selecting whether the second light emitting element emits light or no light (Paragraph [0033] explains that LEDs 35a and 35b which alternately emit light, meaning that when LEDs 35a are connected through switches 36 they emit light and LEDs 35b do not emit light and when LEDs 35b are connected through switches 36 they emit light and LEDs 35a do not emit light.).

Therefore it would have been obvious to "one of ordinary skill" in the art at the time the invention was made to use the selection means as taught by Roosendaal et al. in the display device taught by Kim in order to allow for power reduction when the device is closed and both sides of the display are not needed.

Regarding claim 16, Kim also discloses an electronic device using the display device according to claim 2 (Figures 4-5).

Regarding claim 26, Kim and Roosendaal et al. disclose the display device according to claim 2.

Kim also discloses wherein the first electrode, the second electrode and the third electrode have light transmitting properties (All of the electrodes shown in Figure 2 have

Art Unit: 2629

light transmitting properties, otherwise light would not be emitting in the directions indicated by the arrows on the top and bottom of the figure.).

Regarding claims 32 and 36, Kim discloses the display device according to claims 1 and 19.

Kim fails to teach of the display device further comprising a reflective film over the first electrode, wherein the reflective film overlaps with the third electrode.

Roosendaal et al. disclose of a display device further comprising a reflective film over a first electrode, wherein the reflective film overlaps with a third electrode (Figures 3-4 and paragraph [0025] explain that the electrodes 18 are reflective, where they overlap with electrodes 15.).

Therefore it would have been obvious to "one of ordinary skill" in the art at the time the invention was made to use the reflection means as taught by Roosendaal et al. in the display device taught by Kim in order to prevent a leakage of light in the directions in which the specific display is not mean to occur.

Regarding claim 33, Kim and Roosendaal et al. disclose the display device according to claim 2.

Roosendaal et al. also disclose of a display device further comprising a reflective film over a first electrode, wherein the reflective film overlaps with a third electrode (Figures 3-4 and paragraph [0025] explain that the electrodes 18 are reflective, where they overlap with electrodes 15.).

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Tokitou et al. (JP 11-224783 A) disclose of an electroluminescent display that can provide for a display on two sides (Drawing 4).

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Art Unit: 2629

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen G. Sherman whose telephone number is (571) 272-2941. The examiner can normally be reached on M-F, 8:00 a.m. - 4:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amr Awad can be reached on (571) 272-7764. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

SS

24 January 2007

AMR A. AWAD
SUPERVISORY PATENT EXAMINER
